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A Long-Range Look at Farming

AMERICAN farmers can expect fairly good incomes during the next quarter century if the Nations work out a stable peace.

This is the conclusion of a study made by the Bureau of Agricultural Economics for the House Committee on Agriculture. The study analyzes the important trends and factors that will affect farming during the next generation.

Short-Run Trends

The long-run prospect will, of course, be affected by events in the next few years.

Prices received and paid by farmers are expected to drop below the record 1947 levels as emergency demands diminish. However, demand for farm products is likely to stay favorable, especially as compared with prewar. U. S. consumers are eating about 15 percent more food per person than before the war. Meanwhile, the foreign market will continue relatively good for some time, partly as a result of the European Recovery Program.

Farmers generally are in a good position to work out adjustments. They're in a better financial condition to meet a decline in prices and incomes than after World War I. Stocks of staple farm commodities are relatively low. There already has been a considerable reduction in hog and cattle numbers so that a forced liquidation of livestock is not in prospect. However, it is a fact that prices paid by farmers are "sticky"—that is, farm costs are likely to remain relatively stable.

Long-Run Trends

Over the longer run, several forces will promote the growth of the U. S. economy. One of the most important will be the increase in population. There is a good chance that it will grow an average of about one million persons

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OUTLOOK HIGHLIGHTS

U. S. AGRICULTURAL EXPORTS in the first 3 months of 1948 were below any quarter of last year and 13 percent below the 1947 quarterly average. Total U. S. exports also were down but were only 8 percent below last year's quarterly average.

Farm products shipped abroad in January-March were valued at 859 million dollars. Foods accounted for 653 million dollars, cotton 122 millions, leaf tobacco 40 millions and other nonfoods, 44 millions.

First quarter exports did not include any goods financed by European Recovery Program. If crops abroad turn out as large as seems likely, agricultural exports may not hold at the first quarter rate the rest of the year, even with ERP.

The U. S. ECONOMY continues in high gear. Employment in April was 58.3 millions, about 1 million more than in March. Unemployment was down to 2.2 millions.

Industrial production dipped slightly in April but remains high.

New construction in the first quarter was up 25 percent in value from January-March 1947; up 7 percent in physical volume. During the 3 months, 164,000 new family homes were started, 15 percent more than a year earlier.

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The recent reduction in income taxes, rising wages and high employment have boosted the income consumers have to spend to a higher level than ever before.

Farmers received about 10.3 billion dollars from marketings in the first 5 months of 1948, slightly more than last year. They have marketed smaller quantities of livestock and crops but prices have been higher.

PRICES farmers received in mid-May averaged 289 (1909–14=100). Truck crops were down 23 percent, the largest loss.

The index of prices paid by farmers including interest and taxes was 250, up 1 point to nearly equal the record set in January. The parity ratio moved down 1 point to 116. This is the lowest for any month since November 1942 except February.

MEAT SUPPLIES are likely to hit low point for the year in the third quarter. At that time, consumers may eat 2 to 3 pounds per person less than the 35.5 pounds in July-September 1947.

Meat output probably will rise less than usual from the third to the fourth quarters. Supplies per person in October–December may be as much as 4 or 5 pounds less than the 41 pounds consumed in the same period last year.

Prices of hogs, cattle, and lambs in April and early May were low compared with wholesale meat. Demand for slaughter animals was down because of packinghouse strike. The price outlook for the summer: hogs, up more than seasonally because drop in marketings is expected to be greater than usual; fed cattle, up about seasonally; lambs, down from current high levels as marketings from 1948 crop gain seasonally.

RELATION of dairy prices to feed prices will be more favorable to milk producers in the last half of 1948 than the same period last year if farmers plant as many acres to feed grains as they intended earlier in the year and yields are average. Farmers' prices for

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Long-Range Look at Farming

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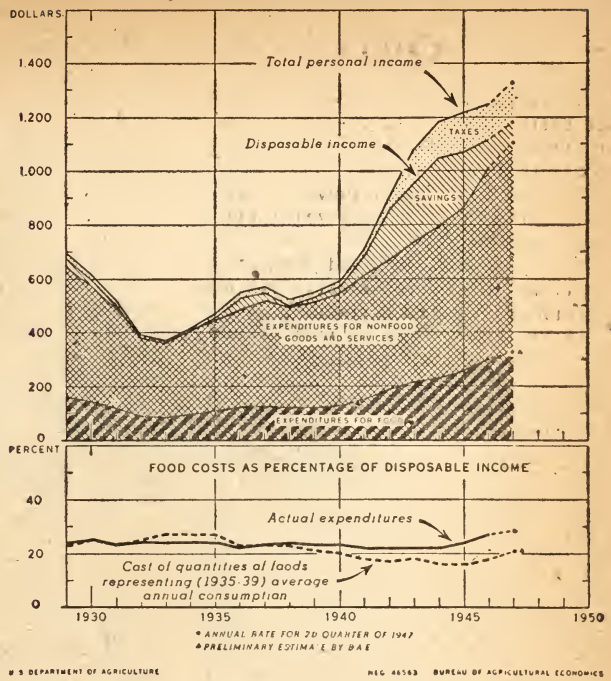
a year. This means a larger market for farm products.

By 1975, the labor force is likely to be 10 to 12 million workers larger than in 1947. Productivity of workers also is expected to increase. As a result, the 15 to 20 percent more people in 1975 could have a third or more real income per capita.

Rising real incomes probably would further stimulate the per capita consumption of farm products, especially food. If consumer income and employment are well maintained, consumption per person by 1975 could easily be 5 percent or more above the current level, 20 to 25 percent above 1935–39. Even under relatively unfavorable conditions, substantial declines are not expected.

Among the food products, the uptrend in consumption of fruits and vegetables is likely to continue but at a slower rate. Demand for meats and whole milk dairy products should continue high, depending on consumer incomes and employment. Consumption per person of cereal products and potatoes is not likely to change much. Consumption of fats and oils, including butter, and sugar is not expected to be much above prewar though probably above the rates of recent years.

PER CAPITA FOOD COSTS, EXPENDITURES AND CONSUMER INCOME, UNITED STATES, 1929-47



Farm Output Increases

Farmers have increased their output of food and fiber about two-thirds since 1910. Many of the forces responsible for this upsurge will operate during the next generation. Farmers will continue to shift to machine power. Since 1918, about 55 million acres have been released from the production of food and fiber for human use. Another 15 to 20 million acres are likely to be released during the next generation, most of it by 1965. Mechanization and other technological developments, such as improved weed and insect control, may reduce the number of farm workers needed another 15 to 20 percent.

Other practices which will help farmers increase the volume and efficiency of production: development of more productive plants and animals, increased use of fertilizer, drainage, irrigation, expanded use of soil-conserving and soil-building practices and better forest practice on farm woodland.

The rate at which farm production will increase will depend in part on farmers' confidence in their future market. If economic conditions are favorable, output might be up a fourth by 1975. With less favorable economic conditions, agricultural production probably would increase at about the same rate as total population.

More food and fiber will be produced by fewer farmers. Rural population has been declining for many years. If

the trend continues, the number of people on farms will be down to 24 million by 1975. A severe depression could reverse the trend temporarily. The slowing down of migration from the farm from 1930 to 1933 led to a rise of nearly 2,000,000 persons in the farm population.

As farm population goes down, commercial farms are likely to become larger. However, the number of part-time farmers whose main source of income is nonfarm work is likely to increase. Rural life probably will continue to become more like town life as the variety of rural service institutions increases, rural institutions move from farm neighborhoods into villages and towns and living conditions on the farm improve.

The Variable Factors

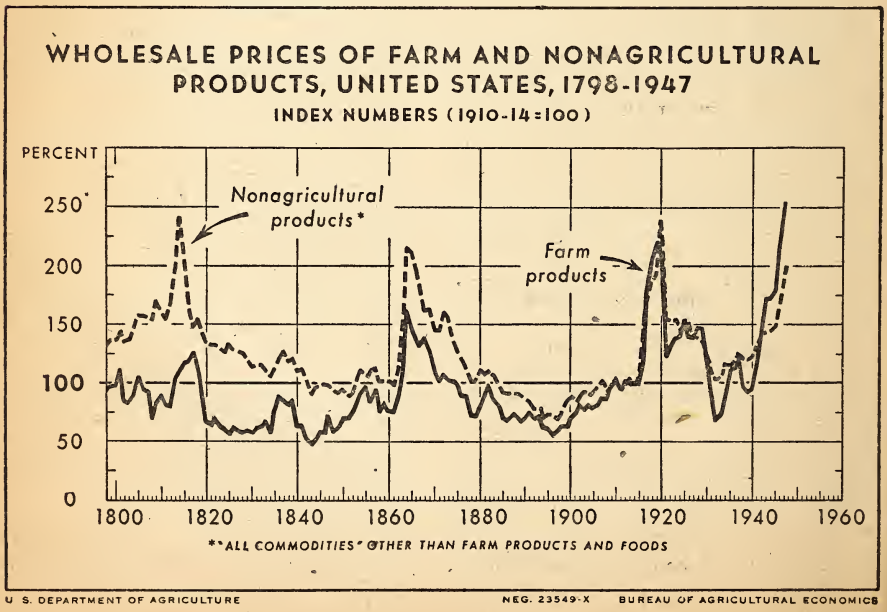
Changes in population, increases in productivity on the farm and in the factory and the other trends just discussed have been under way for many years. They can be projected into the future with reasonable accuracy. But three other important factors—employment, the general price level and foreign demand—are less easy to estimate.

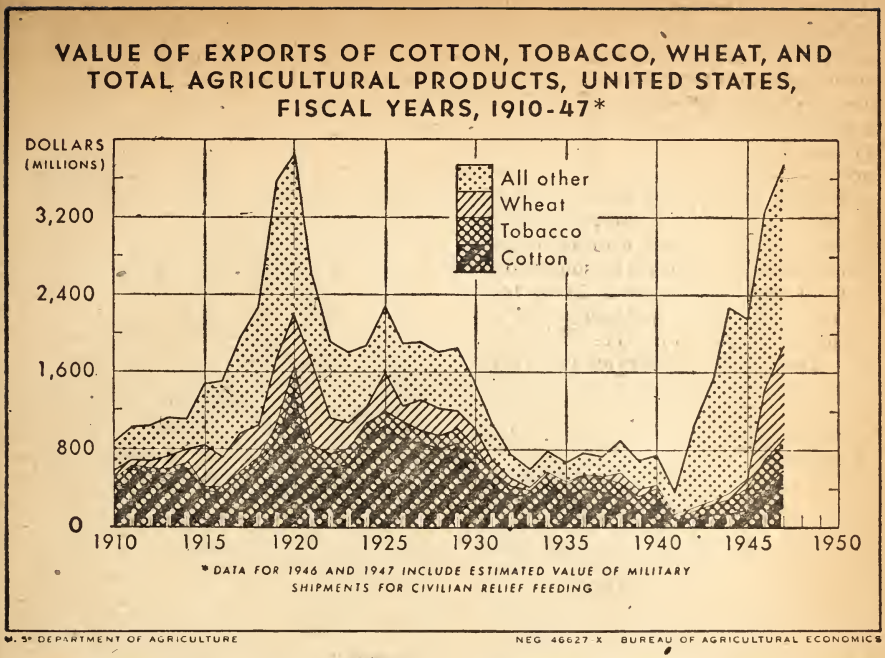
Since the early 1930's, employment has ranged from 75 to 95 percent of the labor force. It seems unlikely that in the next 25 years, employment will drop as low as it did at times between the two wars. Americans have learned the importance of high employment. In addition, the United States has accepted new responsibilities for world leadership which makes a sound economy more important than ever.

Wholesale prices are now in their fourth great inflation, each of which has been accompanied by war. Money and credit policies also affect prices in ways that are difficult to measure. However, several factors indicate that prices may not work down to the low levels of the 1930's. Wage rates are not likely to drop sharply. Fiscal and credit policies are not likely to be used in a way to deflate prices unnecessarily. We assume that farm programs will be continued.

Foreign Trade

U. S. exports in the next quarter century will depend on our own policies as well as those of other countries. If we export considerable quantities of goods, we also must eventually import for imports are the final means of paying for exports.





Success or failure of recovery in Europe will play a big part in determining how much of our farm products will be taken. The extent to which European Nations will return to prewar sources of supply, such as the Orient, also is important.

Increasing restrictions on international trade could cut down our foreign trade. Under unfavorable conditions, wheat exports might not be more than 100 million bushels a year, tobacco not more than 400 million pounds, and cotton not more than 2 to 3 million bales.

However, the world needs American farm products. World population is steadily increasing. Wide new areas of easily cultivated land are not in sight. Exports of 200 or more million bushels of wheat each year, 550 to 600 million pounds of tobacco and 4 to 5 million bales of cotton would be consistent with foreign needs as well as with our ability to produce..

Farm Market Depends on Employment

In general, the best prospect seems to be that the economic situation of farmers over the next quarter century will be relatively good. Such a conclusion can be nothing more than a statement of chances. But we should be wise enough to maintain a high level of employment and real income so that farmers can look forward to better incomes than they had between the two wars. Farmers' prices might average about "parity" as parity is now calculated.

If employment falls, however, both farm prices and the purchasing power of the farmers' dollar would fall. Increases in population, productivity, food consumption and the like would be slowed down. When farm incomes fall, urban producers also lose much of their market for clothing, automobiles, fertilizer and similar items. We believe the long-range prospect is good—at the same time, we should be prepared to maintain our farm resources and a rising standard of living for our increasing population.

O. V. WELLS
Bureau of Agricultural Economics

1948–49 PROSPECT

More Feed For Fewer Livestock

FARMERS will have more feed concentrates for fewer livestock in the 1948–49 feeding season than for the current year if growing conditions continue favorable this summer.

So far, the weather has been much better than a year ago for the planting and early growth of feed crops. Prospects for oats and barley are generally good except in areas of the South and in California. Preparation of ground and planting of corn have progressed rapidly. Pastures and hay crops are in good condition in most areas.

Farmers will produce around 20 million tons more of the four feed grains—corn, oats, barley and sorghum grains—than the 96 million tons of 1947 if the growing season is about the same as the average for 1942–46. Last year, excessive rains held down plantings in the spring and adverse growing weather in the summer reduced crop yields. Carry-over of corn, oats, and barley into 1948–49, however, is expected to be around 6 million tons smaller than last year. This will partly offset any increase in production.

Wheat Feeding May Drop

Byproduct feed supplies probably will be close to the average for recent years and considerably above prewar. Wheat feeding may be reduced when larger supplies of feed grains are available this fall.

The total supply of feed concentrates, including grains and byproduct feeds, with an average growing season, probably will be about 10 percent larger than in 1947. But it will be smaller than during the war when the average carry-over was larger, more domestic wheat was fed, and substantial quantities of wheat were imported for feeding.

The condition of the hay crop in May indicated that farmers may produce as much as 101 million tons this year. This, plus the May 1 carry-over of 15 million tons, would give a hay supply of 116 million tons, only slightly less than in 1947–48 and well above prewar. Spring pastures were in better than average condition on May 1 in all regions of the country except the South Central.

Livestock Numbers Falling

Farmers have been reducing livestock numbers and production the last three or four years. Because of the poor 1947 corn crop and unfavorable livestock-feed price ratios, this trend will continue through 1947–48. Cattle numbers apparently are falling further this year. Farmers will raise fewer pigs, chickens and turkeys than in 1947. The number of livestock they will feed during 1948–49 is likely to be far less than during the war and the smallest in ten years. As a result, supplies of both feed concentrates and hay per livestock unit in 1948–49, if the growing season continues favorable, could set new records.

More corn also would be used for industrial purposes, for food and for export in 1948–49 than in the current year. Because of the smaller supply and high prices this year, food and industrial uses of corn have been smaller than in most recent years. Exports probably will not exceed 5 million bushels in contrast to the 127 million bushels exported in 1946–47.

Feed-grain prices received by farmers have been a record or near-record during the past few months, and livestock-feed price ratios have been much below average. If prospects for 1948 feed crops continue good, at least the usual seasonal drop in oats and barley prices is expected this summer, while corn probably will decline more than the usual this fall. Livestock-feed price ratios probably will be much more favorable to livestock producers in the 1948–49 feeding year than they are at present.

M. CLOUGH
Bureau of Agricultural Economics

Most Farmers Will Have Enough

SPOT shortages of tractor motor fuels have occurred here and there over the country since spring plowing began and may continue to occur during the summer and fall. However, no general shortage is in sight.

Spot shortages may occur even in areas where supplies are generally adequate due to the difficulty of having the right amount of the right product at the right place at the right time. This may be caused by lack of storage or transportation facilities, a rush planting or harvest or an unusual increase in the number of machines in a community.

Tractor fuels most likely to be short at times are gasoline and those closely related to gasoline. Kerosene and diesel fuel supplies are expected to be adequate. About 20 percent of the farm tractors of the country use fuels other than gasoline.

An unusually rapid increase in national consumption also has been responsible for spot shortages of gasoline. From 1934 to 1947, passenger car registrations increased 10 million, or 50 percent. The average car last year was older and in poorer mechanical condition than in 1934 and used more gasoline per mile. Truck registrations in 1947 were almost double 1934 and the number of buses increased 75,000 or 75 percent. The number of tractors on farms rose from 1,016,000 in 1934 to 3,100,000 in 1948, and the number has doubled since 1940. Since 1941, use of aviation gasoline has doubled.

Demand Outruns Production

Consumption of gasoline by passenger cars, trucks, buses and farm tractors this year is expected to be about one-fourth greater than it was 7 years ago. Demand for petroleum products generally has increased faster than production.

Severe weather last winter also is partly responsible for the spot shortages of tractor motor fuels this spring. To meet the heavy demand for fuel oil for home heating, refineries converted the highest possible percentage of the crude oil to fuel oil. To some extent fuel oil can be produced at the expense of gasoline, and vice versa.

Output May Be Record

There should be a sufficient total gasoline supply this summer to meet an expected 6 to 8 percent increase over the amount used last summer. The season opened April 1 with about 113 million barrels of gasoline in storage at major terminals—the largest industry stocks in history. Gasoline stocks in the Midwest, however, are not as large as they were last year. From April to September the refineries are expected to produce about 19 billion gallons of gasoline, a new record for the period. To prevent spot shortages from occurring here and there, however, would require practically perfect distribution. Therefore, such shortages are likely to occur, except West of the Rocky Mountains.

Farmers who encounter difficulties in obtaining tractor fuels should contact their County Agricultural Conservation Committees, who in turn will report the shortages to the State PMA Committees.

From the long-time view, it is believed that gasoline supplies can be brought into line, even with an increased demand, if the materials of production and distribution—steel, in particular—can be supplied in needed amounts. Materials are needed especially for drilling, refining, and transportation facilities (pipe line, tank cars, tank trucks, tankers, barges). Meanwhile, U. S. exports are being decreased and imports are being increased. Unless unforeseen difficulties occur, expansion of production in a few years, should make supplies of gasoline adequate again.

CLYDE F. CLARK
Production and Marketing Administration

INTERNATIONAL WHEAT PACT DRAWN UP BY 36 COUNTRIES

DELEGATES of 36 nations have signed an international wheat Agreement in Washington "to assure supplies of wheat to importing countries and to assure markets to exporting countries at equitable and stable prices."

The agreement must be approved by the governments of the various countries. In the case of the United States, this means that it must be passed by the Senate. If adopted, the agreement will be in effect the five years beginning August 1, 1948.

The agreement provides for an annual trade of 500 million bushels of wheat within certain price ranges. The wheat will be exported by the United States, Canada and Australia. The 33 importing countries include most of the countries under the European Recovery Program. Russia and Argentina are not participating. Nations that have not signed the agreement may be admitted later, under certain conditions, by unanimous vote of the agreement's governing body.

U. S. Share—185 Millions

Of the half billion bushels of wheat which would be exported each year under the agreement, Canada would supply 230 millions, the United States 185 millions and Australia 85 millions. These quantities include wheat moving in the form of flour.

The agreement does not affect trade with countries that are not participating. If the agreement is approved, for example, the United States also would continue to send wheat to the military occupation zones of Europe and the Pacific plus small amounts to nations that have not signed the pact. Military exports to occupied areas are now running an annual rate of more than 150 million bushels. Thus, U. S. exports could exceed 300 million bushels annually.

Net U. S. exports have averaged 169 million bushels a year since 1909. Only in 1914–15, 1920–21 and the 3 years beginning 1945–46 have net exports exceeded 300 millions.

Maximum and minimum prices set by the agreement will be based on the prices for No. 1 Manitoba Northern wheat in store at Fort William, Port Arthur, Canada. The base prices for each year:

	Minimum	*Maximum*
1948–49	$1.50	$2.00
1949–50	1.40	2.00
1950–51	1.30	2.00
1951–52	1.20	2.00
1952–53	1.10	2.00

These prices merely represent the highest or lowest for the 500 million bushels of wheat entering into world trade under the agreement. Actual prices will be free to move within these ranges.

Prices to Differ

Maximum and minimum prices in other parts of the world will differ from the Port Arthur prices because of differences in transportation and other costs, and prevailing exchange rates. In addition, importers and exporters can agree on allowances for differences in quality.

For example, $1.88 per bushel for Hard Winter wheat at Kansas City is equivalent to the Port Arthur maximum price if freight and other costs and foreign exchange rates are the same as they were last February, and if no adjustment is made for differences in quality. This is higher than any price received at that market between November 1920 and May 1946. Other prices equivalent to the Port Arthur maximum price: Galveston, $2.11; Baltimore, $2.14; and Portland, $1.99.

Domestic Prices Not Affected

The agreement does not deal with domestic prices within the various countries. If prices in the United States in some periods are higher than the world prices or the maximum under the agreement, an export subsidy or some other arrangement to facilitate exports would be necessary.

The pact provides for the adjustment of the obligations of any country

which is unable to buy or sell the guaranteed amount. This would cover such things as short crops in exporting countries or the necessity for safeguarding balance of payments or monetary reserves in importing countries. It also provides that an importing country may ask assistance in buying more than its guaranteed amount in case of an emergency such as a drought.

The pact provides that exporting nations maintain stocks at the end of their crop years at minimum levels—170 million bushels for the U. S., 70 millions for Canada, and 25 millions for Australia. However, year-end stocks will be permitted to fall below these levels if exporters do not have enough wheat to meet their domestic requirements or fulfill their exports under the agreement.

Price Stabilization Reserves

In addition to setting minimum carry-overs for exporting nations, the agreement also provides for price stabilization reserves. They would be operated by both exporting and importing nations that are not chiefly flour importers. The maximum amount of wheat required for these reserves is 10 percent of the quantity each country agrees to buy or sell under the agreement.

Price stabilization reserves are to be built up when the free-market price is below the basic minimum price. They will be accumulated first by the exporting countries. After they have filled their reserves, they may request importing nations to buy their wheat at free-market prices. Of course, no importing nation will be required to take more than 10 percent of the amount it will purchase under the agreement.

These reserves may be sold or used only when free-market prices are above the basic maximum price set by the agreement.

Council Set Up

The agreement will be administered by an International Wheat Council which is an outgrowth of the wheat advisory committee formed in 1933. Each nation in the agreement may appoint one delegate and an alternate and agrees to accept all decisions of the Council.

Delegates from exporting countries hold a total of 1,000 votes, those of importing countries the same amount. Votes are to be distributed among the 36 nations in the proportion each country's guaranteed purchases or sales bears to total purchases or sales. The United States holds 370 votes or 37 percent of the total held by exporting countries. On any issue requiring a two-thirds majority of importing and exporting countries voting separately, agreement by the United States would be necessary.

At a recent meeting of the Wheat Council, it was agreed "that the International Emergency Food Committee of the FAO Council is the appropriate body to recommend the international distribution of wheat and other grains used for human consumption during the continuation of the present severe food emergency." It was decided that international trade in wheat and other grains during this emergency should be in accordance with the Committee's recommendation provided that the amount recommended for distribution to any country is not less than its guaranteed purchases under the International Wheat Agreement.

ROBERT E. POST
Bureau of Agricultural Economics

Farm-Mortgage Debt Up

The farm-mortgage debt on January 1, 1948 is estimated to be 4,882 million dollars, up about 104 million dollars or 2.2 percent from last year. The increase was slightly greater than during 1946.

The increases in farm-mortgage debt during 1946 and 1947 reversed the downward trend which had been in progress every year since 1923 except 1928. The rise no doubt continues to reflect the large purchases by farmers of land, machinery, motor vehicles, and other equipment. Many farmers used their high incomes of 1947 to buy such items rather than to make further principal repayments; others borrowed money to make these purchases.

Quality Is First Potato Buyers Report

MOST homemakers consider the quality of the potatoes they buy more important than either the size or the price, a recently completed survey shows.

In the survey, homemakers in a cross-section sample of towns of 2,500 population or over were asked about their preferences in potatoes. They were asked about storage problems in the home, what cooking qualities they prefer, whether they purchase particular brands and many other questions. The study was made by the Bureau of Agricultural Economics in a project under the Research and Marketing Act.

Among the homemakers interviewed, quality was found to outweigh size and price 12 to 1 for the country as a whole. In the South, however, consumers indicated a slightly greater interest in price than those in the North. It also was found that homemakers in the U. S. emphasized the size over price by about 3 to 2.

Study Market Changes

At all income levels, quality and size are more important than price. As incomes go up, however, interest in quality and size increases while that in price declines. Rising incomes also result in a greater increase in interest in quality than in size.

Several questions in the survey concerned the effect of changes in market conditions on the potato-buying habits of consumers. In the past, it has been thought that changes in price, supply, or quality seldom cause many people to increase or decrease their potato consumption. Those who eat potatoes do not often stop buying them altogether and nonusers seldom start buying suddenly. However, the survey shows that some people are influenced by conditions in the market.

About 12 percent of the consumers report that when the prices of good-quality potatoes are high they buy less. When prices go down, 20 percent buy more.

Buy Less When Quality Low

When the quality of potatoes is not very good, 44 percent say they buy less even when the price is low. When prices are high and the quality is not very good, over half report that they cut down on their purchases.

Homemakers seldom face potato shortages so they have little basis in experience for answering questions about how a low market supply affects their purchases. If potatoes were hard to get, however, 23 percent indicated that this would be enough of an obstacle to decrease their purchases.

In general, the great bulk of consumers report that they buy a constant amount of potatoes except when the quality is poor. The rest state they would contract or expand the volume of their purchases according to conditions in the market.

TRIENAH MEYERS
Bureau of Agricultural Economics

Cotton Farmers Produce 11,851,000 Bales Last Year

Cotton farmers produced 11,851,000 bales of 500 pounds gross weight last year, 3,200,000 bales more than in 1946 but 539,000 bales less than the 1936–45 average.

In ginning the 1947 crop, 4,679,000 tons of cottonseed are estimated to have been separated from the lint. This is about a third more than from the 1946 crop but less than the 10-year average. About 87 percent of the cottonseed probably will be delivered to oil mills for crushing.

The combined values of the cotton and cottonseed was $2,291,202,000, second only to the 1919 crop. Cotton sold before May 1 brought an average price of 31.9 cents a pound, three-fourths of a cent below the 1946 season average, but 17.1 cents above the 10-year average.

BOSTON FORMULA OFFERS

A New Way of Pricing Milk

A NEW kind of milk-pricing formula became effective in the Greater Boston, Lowell-Lawrence, and Fall River, Massachusetts, milk-marketing areas on April 1, 1948. Nearly 14,000 producers in Vermont, Massachusetts, New Hampshire, and Maine supply milk to the more than 2½ million persons who live in the three markets.

Producer prices for milk in the Greater Boston market have been under continuous Federal regulation since 1937 and those in the other two markets for nearly as long. During most of this time, prices could be changed only after public hearings. However, unsettled economic conditions after the war made necessary a quicker way of changing prices of milk.

An attempt to provide a more satisfactory method was a formula adopted in 1946 which based fluid milk prices on the wholesale values of butter and nonfat dry milk. After a few months' trial, it was generally agreed that this formula did not accurately reflect changes in the supply of, and demand for, milk in the three markets.

Experts Study Problem

As a result, a committee of nine experts was appointed to study the problem of pricing Class I, or fluid, milk in the Boston market. After an investigation, the committee proposed the formula now in effect. Similar committees are now at work on formulas for the New York and Philadelphia markets.

Under the new formula, the price of fluid milk in the three New England markets varies automatically with changes in national and local market conditions. The formula is based on: (1) the index of wholesale prices in the United States reported by the Bureau of Labor Statistics; (2) the index of prices for dairy feeds and farm wages in the Boston milkshed reported by the U. S. Department of Agriculture; (3) consumer demand as measured by the Boston Federal Reserve District index of department store sales. The base period, 1925–29, was selected for each index. The average of the indexes determines the basic price for Class I milk for each month.

Not only does the basic price for Class I milk rise and fall with changes in the average of the indexes but it also goes up and down with the seasons. The seasonal changes were provided to encourage an even flow of milk to the markets throughout the year.

This is the way the seasonal part of the formula works: The basic price for Class I milk in May was $5.43. If we assume that in the next 12 months there will be no change in the average of the three indexes, prices in the coming year will be: July–September, $5.87; October–December, $6.31; January–March, $5.87; and April–June, $5.43.

Helps Producers To Plan

One advantage of changing prices by seasons is that it is more easily understood than such devices as base-rating plans or take-out-and-pay-back plans. Since producers will know what the seasonal increases or declines will be, they will find it easier to plan for breeding or for the purchase of cows and heifers for their herds.

If the new formula had been in effect from 1921 through 1946, the average Class I milk price would have been within 1 cent per hundredweight of the actual average price. If past relationships among the indexes continue about the same, the formula will successfully price fluid milk in these markets. If changes occur, however, the formula will have to be changed. In any case, it will provide prompt price adjustments to changes in general business conditions, in the demand or supply of milk or in any combination of these.

An important feature of the new milk plan has not yet been put into operation. It is an adjustment device which ties the price of milk directly

to the conditions of demand and supply in the market. If there is an excess or a shortage of milk, prices will be changed from those set by the indexes plus the seasonal change. When supply in relation to sales returns to normal, the price goes back to that set by the indexes. This feature will not become effective until January 1949.

The Boston formula has attracted nationwide attention and will be closely watched by those interested in milk pricing. Perhaps this plan will become a significant milestone in the field of milk marketing by offering a means of coping successfully with some of the increasing complications of our economic life.

P. E. O'DONNELL
Bureau of Agricultural Economics

Almost Half of U. S. Farms Have an Electric Washer

Farm wives and their families are now using many of the electrical appliances that have long been common in the homes of city folks, according to a questionnaire mailed to farmers.

Electricity helps do the washing on about 43 percent of all U. S. farms, replies from about 8,400 farm people indicate. The next most common appliance is the electric refrigerator which is reported in 38 percent of the farm homes.

One farm in four throughout the country has an electric vacuum cleaner but the proportion is over half on farms in the Middle Atlantic, East North Central, and Pacific States.

Several electrical appliances still are not common on farms. Only one in 10 of the farmers had an electric water heater.

Foot-operated sewing machines apparently are still widely used by farm women. Only 7 percent had one powered by electricity but, according to a previous survey, 82 percent of all farms had some kind of a sewing machine.

Sixty-one percent of U. S. farm homes were getting electricity from Central Power Station on June 30, 1947.

2,4–D Helps Raise Yields of Corn, Small Grain

The new chemical weed-killer, 2,4–D, used at the right time, the right place and in the right way, can help farmers increase the yields of small grains and corn, experience has shown.

Last year, farmers in Kentucky, Iowa, Indiana, and Pennsylvania used 2,4–D on about 45,000 acres of corn that had become very weedy during a long wet spell. An average of 60 bushels per acre was harvested. In Nebraska, farmers treated more than 50,000 acres with gains in production estimated at 11 to 49 percent.

The chemical also was used successfully on spring wheat last year. About 70,000 acres were treated in the U. S. and Canada with the increase in production estimated to average about 2.5 bushels per acre. At the 1947–48 estimated season average price of $2.31 per bushel, this returned farmers an additional $5.78 per acre.

The cost of the 2,4–D used to treat an acre usually runs between 75 cents and $2.25. This does not include the cost of equipment and labor used in its application.

The chemical must be used properly or it may do more harm than good. Specialists generally agree that only corn planted on wet lands in river and creek bottoms should be treated, because most of the weeds there are broad-leaf. This chemical is not effective against grassy weeds. There are several million acres of these soils in Mississippi, Missouri, and the Ohio River valleys. Weed specialists believe that use of 2,4–D instead of machine cultivators could increase corn production on these lands an average of 10 bushels per acre.

Experts warn against an overdose; the solution should just cover the leaves with no runoff or windrift. The job must be done carefully or crop losses instead of gains may result.

FARMERS STEP UP

Irrigation in Last Decade

FARMERS have stepped up the rate of putting new land under irrigation in the last 10 years or so. They put 2½ million acres under irrigation from 1939 to 1944, as shown by the 1945 Census of Agriculture. The increase was general in most of the West. In the 11 Western States, water was brought to 1.6 million additional acres in the 5-year period. Nearly three-fourths of the counties in which irrigation is important added to their irrigated acreage.

In the six Plains States from North Dakota south to Texas, 437,000 more acres were put under irrigation, not counting the rice area of Texas. In the rice areas of Arkansas, Louisiana, and Texas, farmers irrigated 410,000 more acres. In the humid areas of the East and in Florida, they put 118,000 more acres under irrigation.

Declines in Two States

In the West, irrigation increased in all States except Montana and Nevada. Here the declines were mostly in irrigated pasture and wild hay land. Most of the irrigated crop areas of these States expanded but acreage fell sharply in a few counties. In Elco and Eureka Counties of Nevada the decline totaled 95,000 acres—nearly all of this was irrigated pasture and hay. In Montana, a reduction of 66,000 acres was reported in the counties of Lewis and Clark, Pondera, Ravalli, and Gallatin.

Our farmers put more land under irrigation in 1939–44 than in any like period since 1920. The gain was about 2.8 percent per year from 1939 to 1944, compared with 3.3 percent from 1910 to 1920. In the past quarter century, irrigation has expanded about 1 percent per year, on the average.

At present, irrigation is perhaps spreading even faster than in 1939–44. Both Federal and private irrigation work has speeded up since the end of the war. During 1945 and 1946, irrigated land increased 160,000 acres on Federal reclamation projects and in areas served by Federal works. Not all of this total was made up of new irrigated lands. New Federal reclamation projects during the 2 years brought in about 31,000 acres. Federal reclamation projects now under construction, and those authorized for construction, will eventually provide all the water supply for about 7 million acres, plus supplemental water for about 3 million acres. These projects will bring a substantial increase in irrigated acreage.

Federal Projects Help

Water supplies from Federal works have helped to expand irrigation in many areas that already had some irrigation works. These projects do much to help out in areas that otherwise would suffer from lack of water. They help to restore overdrawn groundwater supplies, and increase the overflow from irrigated areas, which is needed to maintain a safe salt balance. These Federal projects have helped to extend some of the irrigation canals and have supplied water to new irrigation. During 1945 and 1946, irrigated land in regular Federal reclamation projects expanded by 55,000 acres. The rest of the gain in irrigated acreage under Federal jurisdiction came from supplemental water projects and from the rebuilding of private projects.

Data on the acreage of private irrigation projects are available only through 1944. The acreage is up, but we don't know how much. This is a big gap in our knowledge, too, for land in these private projects accounts for about four-fifths of all land under irrigation. Acreage in these projects probably has not expanded as rapidly as on the large Federal projects. Many private projects have reached the limit of existing water supplies. Their further expansion would require new large-scale works.

More Ground Water Used

Irrigated acreage has grown remarkably in some ground water areas. This type of irrigation, getting water from

underground, is done pretty much by individual farmers. In the past 4 years, the Texas area irrigated by ground water has about tripled. Irrigation in the high plains of Texas is reported to have increased from about 300,000 acres in 1943 to over 1 million acres for the 1947 crop year.

How much more of the Nation's land can be yet brought under irrigation is uncertain. A long-time demand for more and more farm production would give a big push to irrigation but most of the possible future projects would be more costly than those thus far developed. Low-cost expansion in the future may be limited to private use of underground water and to irrigation in humid areas.

More in Humid Areas

Farmers in subhumid and humid areas may put more land under irrigation in the future. Land under irrigation in the humid States went up about 50 percent from 1939 to 1944. The total rose from 740,000 to 1,100,000 acres. Most of this irrigation is in the rice country of Arkansas and Louisiana and the trucking areas of Florida. But more irrigation is being done in States like Massachusetts and New Jersey (cranberries) and in Wisconsin and Michigan (potatoes and fruit). New irrigation in these areas will be small-scale undertakings. An advantage of irrigation in humid areas, in addition to increased yields, is that it brings better crop quality.

In the West, and in the Missouri Basin and other Plains Areas, the high costs of large-scale irrigation projects can be partly offset through tie-in developments. If projects are developed to provide hydroelectric power, flood control, recreation facilities, and other needs, irrigation costs are often lower than when irrigation alone is the goal.

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Bureau of Agricultural Economics

Prices of Farm Products

[Estimates of average prices received by farmers at local farm markets based on reports to the Bureau of Agricultural Economics. Average of reports covering the United States weighted according to relative importance of district and State]

Commodity	5-year average		May 15, 1947	April 15, 1948	May 15, 1948	Parity price, May 15, 1948
	August 1909–July 1914	January 1935–December 1939				
Wheat (bushel)—dollars	0.884	0.837	2.39	2.29	2.22	2.21
Rye (bushel)—do	.720	.554	2.45	2.17	2.12	1.80
Rice (bushel)—do	.813	.742	2.33	3.03	3.05	2.03
Corn (bushel)—do	.642	.691	1.59	2.19	2.16	1.60
Oats (bushel)—do	.399	.340	.888	1.19	1.12	.998
Barley (bushel)—do	.619	.533	1.42	1.85	1.75	1.55
Sorghum grain (100 pounds)—do	1.21	1.17	2.72	3.56	3.58	3.02
Hay (ton)—do	11.87	8.87	16.80	19.40	18.30	29.70
Cotton (pound)—cents	12.4	10.34	33.50	34.10	35.27	31.00
Cottonseed (ton)—dollars	22.55	27.52	83.70	89.40	90.70	56.40
Soybeans (bushel)—do	[1] 1.96	.954	3.01	3.64	3.74	[2] 2.40
Peanuts (pound)—cents	4.8	3.55	10.0	10.2	10.4	12.0
Flaxseed (bushel)—dollars	1.69	1.69	[4] 6.01	5.76	5.81	4.22
Potatoes (bushel)—do	[3] .697	.717	[4] 1.52	2.09	1.96	1.86
Sweetpotatoes (bushel)—do	.878	.807	2.33	[4] 2.40	2.44	2.20
Apples (bushel)—do	.96	.90	[4] 3.20	1.83	1.91	2.40
Oranges on tree (box)—do	[5] 2.29	1.11	1.57	.90	1.03	3.80
Hogs (hundredweight)—do	7.27	8.38	[4] 22.20	20.60	19.60	18.20
Beef cattle (hundredweight)—do	5.42	6.56	[4] 18.80	21.90	23.70	13.60
Veal calves (hundredweight)—do	6.75	7.80	[4] 20.20	24.10	25.30	16.90
Lambs (hundredweight)—do	5.88	7.79	[4] 19.90	21.10	23.40	14.70
Butterfat (pound)—cents	26.3	29.1	63.1	84.6	83.6	[6] 62.3
Milk, wholesale (100 pounds)—dollars	1.60	1.81	[4] 3.71	[4] 4.69	4.59	[6] 3.60
Chickens (pound)—cents	11.4	14.9	27.9	28.0	28.5	28.5
Eggs (dozen)—do	21.5	21.7	40.7	42.6	41.5	[6] 46.3
Wool (pound)—do	18.3	23.8	[4] 41.7	41.8	45.6	45.8

[1] Comparable base price, August 1909–July 1914.
[2] Comparable price computed under the Steagall amendment.
[3] 1919–28 average of $1.12 per bushel used in computing parity.
[4] Revised.
[5] 1919–28 average for computing parity price.
[6] Adjusted for seasonal variation.

Year and month	Industrial production (1935-39 =100)[1]	Income of industrial workers (1935-39 =100)[2]	1910-14=100					Index of prices received by farmers (August 1909-July 1914=100)			
			Average earnings of factory workers	Wholesale prices of all commodities[3]	Prices paid by farmers		Farm wage rates[4]	Livestock and products			
					Commodities	Commodities, interest, and taxes		Dairy products	Poultry and eggs	Meat animals	All livestock
1910-14 average	58	50	100	100	100	100	100	100	101	101	101
1915-19 average	72	90	152	158	151	150	148	148	154	163	158
1920-24 average	75	122	221	160	161	173	178	159	163	123	142
1925-29 average	98	129	232	143	155	168	179	160	155	148	154
1930-34 average	74	78	179	107	122	135	115	105	94	85	93
1935-39 average	100	100	199	118	125	128	118	119	109	119	117
1940-44 average	192	234	325	139	150	147	212	162	146	171	164
1945 average	203	290	403	154	180	172	350	197	196	210	203
1946 average	170	270	391	177	202	193	378	242	198	256	240
1947 average	187	323	438	222	246	231	408	269	221	340	293
1947											
May	185	313	432	215	242	228		241	203	327	275
June	184	319	440	216	244	230		233	205	338	278
July	176	313	436	220	244	230	404	244	220	343	286
August	182	324	436	224	249	234		258	224	349	295
September	187	337	448	230	253	238		282	246	367	315
October	190	339	454	231	254	239	404	283	251	360	313
November	192	343	457	233	257	241		293	242	338	304
December	192	354	469	238	262	245		311	262	352	320
1948											
January	193	[5] 349	[5] 464	242	266	251	425	313	231	379	328
February	194	[5] 345	[5] 461	235	263	248		307	218	331	300
March	192	352	[5] 464	236	262	247		298	212	342	302
April	187			238	264	249	420	296	214	347	304
May				239	265	250		291	211	361	309

Year and month	Index of prices received by farmers (August 1909-July 1914=100)									Parity ratio[6]
	Crops								All crops and livestock	
	Food grains	Feed grains and hay	Tobacco	Cotton	Oil-bearing crops	Fruit	Truck crops	All crops		
1910-14 average	100	101	102	96	98	99		99	100	100
1915-19 average	193	164	187	168	187	125		168	162	106
1920-24 average	147	126	192	189	149	148	[7] 143	160	151	86
1925-29 average	140	119	172	145	129	141	140	143	149	89
1930-34 average	70	76	119	74	72	94	106	86	90	66
1935-39 average	94	95	175	83	106	83	102	97	107	84
1940-44 average	123	119	245	131	159	133	172	143	154	103
1945 average	172	161	366	171	215	220	224	201	202	117
1946 average	201	195	382	228	244	226	204	226	233	121
1947 average	271	246	380	261	335	194	249	261	278	120
1947										
April	277	223	387	260	358	223	295	269	276	121
May	276	218	390	270	326	222	286	268	272	119
June	253	240	390	275	318	228	215	262	271	118
July	251	253	390	289	314	215	189	263	276	120
August	246	270	383	267	308	177	211	255	276	118
September	278	297	352	252	311	181	179	254	286	120
October	302	284	357	247	344	166	238	261	289	121
November	312	283	354	257	349	151	272	268	287	119
December	318	305	377	275	367	149	294	281	301	123
1948										
January	322	318	377	267	377	135	320	284	307	122
February	251	261	374	248	333	136	320	257	279	112
March	260	284	372	256	339	140	295	262	283	115
April	268	291	371	275	351	142	340	276	291	117
May	261	282	370	284	357	141	262	267	289	116

[1] Federal Reserve Board represents output of mining and manufacturing; monthly data adjusted for seasonal variation.

[2] Computed from data furnished by Bureau of Labor Statistics and Interstate Commerce Commission on pay rollsin mining, manufacturing, and transportation; monthly data adjusted for seasonal variation. Revised April 1947. [3] Bureau of Labor Statistics.

[4] Monthly data adjusted for seasonal variation. [5] Revised.

[6] Ratio of prices received to prices paid for commodities, interest, and taxes. [7] 1924 only.

OUTLOOK HIGHLIGHTS

(Continued from p. 2)

milk and butterfat are likely to continue averaging higher than a year earlier for several months.

A PRICE SUPPORT program for eggs was announced by the USDA in May after prices had dropped sharply. In mid-May farmers were getting an average of 41.5 cents a dozen for eggs, 90 percent of parity. A month earlier prices averaged 42.6 cents.

RECENT REPORTS indicate that farmers will reduce turkey production this year at least as much as the 18 percent their intentions indicated early in the year. A survey of a small sample of hatcheries shows that output of turkey poults is running about 20 percent below last year. Main reason is that 1947 feed prices were high in relation to turkey prices.

Small number of breeder hens on farms will limit turkey output this year. To keep turkey production from dropping more than 18 percent, farmers must raise at least 10 turkeys for every breeder hen on farms January 1. This average has never been reached nationally though it has been exceeded in some areas where turkey production is commercialized.

Outlook is that turkey prices to be received by farmers this fall and winter will average at least 10 percent above 1947 and be a record. Turkey market will be strengthened by high prices and smaller supplies of red meats and chickens and stronger demand for turkeys for storing.

FATS AND OILS prices differed greatly in mid-May. Cottonseed, corn and peanut oils were near 35 cents a pound; crude soybean oil 26 cents; lard 20 cents, and inedible tallow and greases about 16 cents.

The differences probably will narrow this summer. Lower-priced fats will be substituted for more expensive ones. Production of cottonseed oil will increase; supplies of lard and greases will drop seasonally.

FOOD will become more plentiful this summer but supplies will be slightly smaller than in the same months last year. Most of the decline is likely to occur in corn products, meats, turkey, most manufactured dairy products, summer oranges and fats and oils other than lard. Supplies of most other products will be about the same.

For 1948, food consumption per person will be down a little from 1947 but will be about 12 percent above 1935–39. Consumption of major foods will be higher than prewar except potatoes, sweetpotatoes, dry edible beans, shortening, and wheat products.

TOBACCO OUTPUT will be a fourth less this year than last if farmers harvest as many acres as they intended last March and yields are average. Decline will be due mostly to smaller acreage allotments for flue-cured, fire-cured and dark air-cured.

Cigarette production will stay near last year's record. Output of other tobacco products in 1948 is expected to show little change from last year.

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